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ABSTRACT

Educational accountability is central to the reputation of the nation's community colleges. Some community colleges are adopting mastery learning, competency-based education, curriculum tracking, and/or minimum competency-testing as a means of remaining educationally accountable. Mastery learning programs, under which students are required to demonstrate competency in specified, cognitive, affective, and/or motor skills, can be used to document learning. Rather than basing grades on how well a student performs in relation to his/her classmates, instructors require students to demonstrate mastery of course subject matter on criterion-referenced tests. Competency-based education (CBE) programs have been drawn from the mastery learning philosophy. Besides requiring students to achieve a mastery of sequentially ordered course materials, CBE requires students to demonstrate competence in performing skills or behaviors that are central to specific tasks, activities, or careers. The structure of the curriculum and the flow of students through it are important indications of the learning that accompanies degree or course completion. Several educators have called for degree programs that provide an ordered sequence of courses, rather than a smorgasbord of unrelated electives. A final area in which community colleges are working in order to improve educational accountability involves the identification and testing of minimum competencies, covering the areas of reading, writing, arithmetic, algebra, geometry, trigonometry, analytic geometry, and mathematical analysis. (EJV)

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EDUCATIONAL ACCOUNTABILITY

Educational accountability--the assurance that degrees or certificates "evidence some set of proficiencies achieved at some minimum level" (Cohen and Brawer, 1982, p. 237)--is central to the reputation of the nation's colleges. Growing skepticism about educational quality, however, has tarnished this reputation. Indeed, the National Commission on Excellence in Education reports that "*the average graduate* of our schools and colleges today is not as well-educated as the average graduate of 25 or 35 years ago" (Gardner and others, 1983, p.11). Public confidence in higher education, then, rests on the ability of educators to document the actual learning that accompanies degree or program completion.

This ERIC Digest briefly examines four methods that have been utilized by some two-year colleges to remain educationally accountable: mastery learning, competency-based education, curriculum tracking, and minimum competency testing.

Mastery Learning

Mastery learning programs, under which students are required to demonstrate competency in specified cognitive, affective, and/or psychomotor skills, can be used to document learning. Rather than basing grades on how well a student performs in relation to his or her classmates, instructors require students to demonstrate mastery of course subject matter on criterion-referenced tests. Barshis (1983) outlines the characteristics of instruction in mastery learning programs:

- instructor expectations about course outcomes are clearly defined and communicated to students;
- the course is divided into units that are sequentially organized so that prerequisites are addressed before more complicated material is covered;
- instructors regularly evaluate student progress against stated objectives and provide further, corrective instruction (when needed) to bring students to mastery; and
- absolute, rather than relative grading procedures are used.

Thus, the pedagogical process of mastery learning is, in itself, an educational accountability system: instructors specify learning outcomes; students know what is expected of them; grades are based on demonstrated mastery of course material; and students do not advance to more complex material until prerequisite material has been mastered. More in-depth information about mastery learning is provided by Caponigri and others (1982).

Competency-Based Education

Drawing upon the mastery learning philosophy, some community college educators have developed competency-based education (CBE) programs which, besides requiring students to achieve mastery of sequentially ordered course material, require students to demonstrate competence in *performing* skills or behaviors that are central to specific tasks, activities or careers (Polk, 1982). CBE had its start in teacher training programs and has found its greatest use in vocational curriculums; while a student may be able to list or define specified job competencies, vocational educators recognize that s/he might not be able to perform those tasks on-the-job (Polk, 1982).

In vocational curriculums, CBE programs are built around performance objectives that reflect tasks actually performed by workers in a particular job or profession. Ideally, these identified tasks are verified by advisory committees or by other industry representatives and are taught sequentially so that prerequisite material is introduced before more complicated material. As in mastery learning programs, students are told specifically what performance competencies are to be acquired. Furthermore, students do not graduate or advance to more complicated material until they perform--at specified minimum levels of competency--skills that are requisite to successful job performance. Unlike traditional college programs, in which certificates and diplomas certify that the student has completed a specified number of credit hours, certificates and diplomas granted under CBE programs certify that the student can *perform* specified tasks. Further information on the implementation of CBE programs can be found in several ERIC documents, including *CBE Implementation Manual...*, 1981; Kaprelian and Perona, 1981; Lewis and Sbaratta, 1982; Oen, 1982; and Polk, 1982.

Curriculum Tracking

Besides mastery learning and CBE programs, the structure of the curriculum and the flow of students through it are important indications of the learning that accompanies degree or course completion.

Several educators, including those on the National Commission on Excellence in Education and the National Task Force to Redefine the Associate Degree, have called for degree programs that provide an ordered sequence of courses rather than a smorgasbord of unrelated electives (Gardner and others, 1983; Koltai, 1983). The task force on the associate degree, for example, recently recommended that degree programs should be based on defined competency standards and that student progress from one level of the program to another should be carefully monitored (Koltai, 1983).

One approach to monitoring student progress through a sequentially structured program is Miami-Dade Community

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College's integrated student flow model. Under this model, student skills are assessed at entrance and a directive academic advisement process is used to place students in developmental programs (if needed) and to guide students in program and course selection. The model also utilizes additional monitoring systems to flag students who are experiencing academic difficulties and to keep students informed of their progress in meeting degree requirements. Thus, "students pass through certain checkpoints before proceeding on with their education" (Schinoff, 1982, p. 34). The integrated student flow model helps assure that student course-taking patterns follow a cumulative process that leads toward specific educational goals such as transfer or degree completion. Further, students with academic difficulties are identified and assisted *before* they founder in advanced courses.

Minimum Competencies

Much of the effort to improve educational accountability focuses on the identification and testing of minimum competencies. Increasingly, students are being asked to demonstrate competency in academic skills both upon college entrance and upon receipt of the associate degree. The academic senates of the California Community Colleges, the California State University, and the University of California, for example, have suggested specific competencies in English and mathematics that are requisite to successful performance in college. These competencies cover the areas of reading, writing, arithmetic, algebra, geometry, trigonometry, and analytic geometry and mathematical analysis (*Statements on Preparation...*, 1982). By identifying these competencies and recommending their implementation in state education policy, the academic senates hope to increase educational accountability by assuring that entering freshmen can succeed in undergraduate studies.

Minimum competencies are also used to document the learning of degree recipients. Starting in August, 1984, for example, Florida will require associate degree candidates and other students seeking admission to the upper division at Florida's state universities to pass the *College Level Academic Skills Test* (CLAST). CLAST, to be administered twice a year by the Florida State Department of Education, is designed to assess competency in reading, writing, and computation skills. The development and utilization of CLAST was mandated by the Florida Legislature (*The College-Level Academic Skills Project*, 1982).

Conclusion

Mastery learning, competency-based education, curriculum tracking, and minimum competency testing are all methods of assuring the general public that degree attainment is a process of learning. Yet none of the four is without problems or controversy. Mastery learning is often resisted by humanities instructors and others who do not teach easily defined psychomotor or cognitive skills (Barshis, 1983); CBE programs are similarly criticized. Curriculum tracking policies run counter to student demands for the right to select courses of their own choosing (Cohen and Brawer, 1982). General education, though applauded as an ideal, is difficult to define and operationalize (Shaw, 1983). Minimum competency testing--perhaps the most controversial of all--is criticized by many as being unduly harsh on minority, poor, and learning disabled students who as a result of discrimination, poor education and other factors beyond their control, experience severe academic problems (Madaus, 1981).

Thus, there is no easy answer to educational accountability; the final word on the four techniques mentioned above awaits further research. Nonetheless, mastery learning, competency-based education, curriculum tracking, and minimum competency testing testify to the efforts of two-year college educators to provide students with a rigorous, meaningful learning experience.

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ERIC Clearinghouse for Junior Colleges
8118 Math-Sciences Building
UCLA
Los Angeles, California 90024
(213) 825-3931

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